Primary mathematics teacher education in a strait-jacket in Kenya: venturing out towards realization of the national learning needs

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This paper argues that one of the most critical aspects of primary mathematics teacher education that is missing at both training and classroom practice is a course design that allows both the college tutor educator and the classroom teacher the opportunity to venture outside the adopted and tested mathematics curriculum and bring in new strategies that enhance learning. From onset the identification of content and curriculum that would lead to a realization of national education goals has resulted in a reproduction of the same strategies and approaches at teaching, training and evaluation levels. While curriculum reform documents express the need for development of twenty first skills in and through teaching and training, syllabi produced, learner course books and teachers' guides, and college course books remain theoretically inclined, with the same strategies that are predominantly teacher-centered. Both teacher trainees and practicing teachers are guided and contained as the y await a test that will confirm how much they can remember The curriculum developer, Kenya Institute of Curriculum Development (KICD), focuses on algorithms, computation through carefully outlined steps which are then tested by the Kenya National Examination Council mandated to evaluate and certify performance of the primary school learners and the college teacher trainees. . Continuous professional development among teachers organized by different government departments often repeats what is in course books, identifies new strategies that teachers are again required to follow putting them in the same situation where they cannot venture outside of given procedures. The function of the college mathematics teacher educator is to impart knowledge, skills and attitudes to trainees that must be transferred to learners, the effectiveness of that transfer being demonstrated through performance in mathematics of primary school learners While the educator does not directly interact with the primary school learner, their capacity to influence outcomes in mathematics at this level cannot be ignored. The educator needs to develop in the trainee an inquisitive, adventurous, reflective and innovative attitude for onward transfer to learners for improved performance in mathematics.
The mathematics educator needs to have a clear understanding of practicing teachers' experiences and needs. The current model primary schools attached to teacher training colleges should be used towards this end. This will challenge tutors to develop and grow strategies for trainees that are oriented towards problem solving, critical and logical thinking. Assurance of Learning as opposed to examination results needs to be the primary concern which should be assessed through increased practical teaching for trainees as they transfer acquired skills and knowledge to primary school learners Continuous professional development needs to identify novel strategies that can also be introduced to trainees as their capacity for teaching is improved. College tutors need to engage in action research, collaborative teaching and in house workshops to continue developing their own teaching and training methods. Primary mathematics teacher trainees often prefer to learn and teach mathematics the way they were taught in secondary school. There is therefore need to link mathematics education between the universities that prepares secondary school mathematics teachers, and teacher training colleges.

Keywords: mathematics teacher education; mathematics teacher educator; professional development.